

Amendments to the Specification:

- Please insert the following paragraph on page 1, under the Title and immediately above “BACKGROUND OF THE INVENTION,”:

--REFERENCE TO RELATED APPLICATION

This application claims under 35 U.S.C. 119(e) the benefit of the filing date of U.S. Provisional Application No. 60/257,757, filed on December 21, 2000.--

- Please replace the paragraph bridging pages 1-2 with the following rewritten paragraph:

The present invention includes systems of microneedle arrays to align multiple fibers to a laser or detector array. The present invention fabricates microneedles using techniques that include, for example, but are not limited to, laser drilled Kapton or epoxy molding, and combines them with optical fibers, bump bonding, and LV curing adhesives, to manufacture a variety of optical modules useful for communications and sensing.

- Please replace the 2nd full paragraph of page 2 with the following rewritten paragraph:

The present invention includes the use of Vertical Cavity Surface Emitting Lasers (VCSELs) and planar photodetector arrays. The taper of the hollow needles allows fibers to be conveniently inserted into the wider end and then guided by the taper to a very precise position determined by the needle bore and the precision of the needle placement. Since the needles are fabricated using photolithography [[and or]] and/or laser drilling, both of which can achieve very accurate placement of the needles, Alignment [[, alignment]] to tolerances of approximately a micron can be achieved. The fibers are fixed in place using epoxy that is thermally or UV cured (or done in combination). The z-orientation is determined by fixturing the needles so that the fibers, when inserted, come in contact with a stop. Typical needle dimensions are about 125 μm exit hole, 125 μm length, 175-200 μm entrance hole and 250 μm centers.

- Please replace the 2nd full paragraph of page 4 with the following rewritten paragraph:

Microneedle devices and manufacturing methods for the microneedles are described in the following patent applications, U.S. Ser. No. 09/095,221, filed on Jun. 10, 1998, now U.S. Pat. No. 6,503,231, U.S. Ser. No. 09/448,107, filed on Nov. 23, 1999, now U.S. Pat. No. 6,743,211, U.S. Ser. No. 09/452,979, filed on Dec. 2, 1999, now U.S. Pat. No. 6,611,707, and U.S. Ser. No. 09/453,109, filed on Dec. 2, 1999, all of which are herein incorporated by reference in their entirety.